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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/572,593

08/14/2007

Robert James Kelly

KELL3013/JEK

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23364 7590 01/10/2008  
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EXAMINER

RABAGO, ROBERTO

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

01/10/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/572,593

Applicant(s)

KELLY ET AL.

Examiner

Roberto Rábago

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1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) In claims 1, 7 and 8 (and all claims dependent thereon), the use of "selected from the group comprising" is indefinite because "comprising" is open-ended, and therefore the scope of the intended group cannot be determined. It would appear that applicants are intending a closed group, which requires proper Markush format (i.e., "selected from the group consisting of"; see MPEP 2173.05(h)). The claims will be further examined assuming the claims will be amended to recite a closed Markush-type group of the two named species.

(b) In claim 21 (and all claims dependent thereon) the phrase "chemically linked" is indefinite in that it cannot be determined whether the intended meaning is "chemically bonded" or some other meaning which is either different or broader than that of being chemically bonded.

(c) The preamble of Claim 27 (and claim 28 by dependency) recites "A keratin homopolymer material made according to claim 21"; however, claim 21 does not recite

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making a keratin homopolymer. Furthermore, there is nothing in the language of claim 21 which would be reasonably construed as a homopolymer; specifically, neither keratin bonded to a monomer nor keratin bonded to a polymer would appear to describe a homopolymer, which is by definition a polymer made from a single monomeric species. Accordingly, the intended scope cannot be determined.

(d) Claims 3, 14 and 23 are indefinite because insufficient description has been provided to determine the limits of "a keratin protein fraction." Applicants have identified several example "fractions," but these appear to be arbitrary selections based on arbitrarily selected properties, and therefore one of ordinary skill in the art would not be able to determine whether and particular subset of the keratin protein family would be narrow enough to be considered a "fraction".

### ***Claim Objections***

3. Claims 2, 13 and 22 are objected to because the "s" in "s-sulfonated" should be capitalized to clearly indicate that the intended meaning of "s" is the element sulfur in the moiety  $-S-SO_3^-$ .

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 21-25 is rejected under 35 U.S.C. 102(b) as being anticipated by JP 54-137064.

The reference discloses graft polymerizing acrylonitrile onto keratin material such as wool (see Derwent abstract). The recommended wool fibers would be expected to have at least a non-zero amount of S-sulfonation, and have some content of fibers within the intermediate filament protein family.

5. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Schnetzinger et al. (US 5,071,441).

The reference discloses at col. 1, lines 10-26, contacting human or animal hair keratin with poly vinylpyrrolidone. The recommended human or animal hair fibers would be expected to have at least a non-zero amount of S-sulfonation, and have some content of fibers within the intermediate filament protein family.

6. Claims 1-8, 13-16 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by CN 1425813 (previously cited in PCT phase).

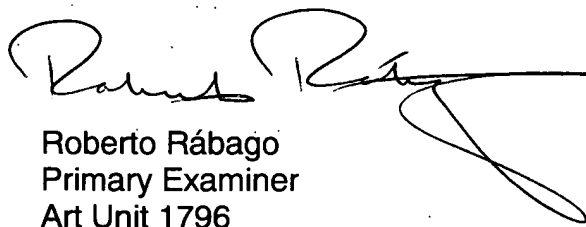
The reference discloses in the Derwent abstract a process of providing a solution of keratin and PVA, wet spinning into a fiber, and heating. The recommended animal keratin would be expected to have at least a non-zero amount of S-sulfonation, and have some content within the intermediate filament protein family.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberto Rábago whose telephone number is (571) 272-1109. The examiner can normally be reached on Monday - Friday from 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Roberto Rábago  
Primary Examiner  
Art Unit 1796

RR  
January 4, 2008